

# Focus *on how recycling benefits the environment*

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## **Recycling conserves natural resources**

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Each ton of solid waste that is reused, recycled or composted, is one less ton of solid waste that requires disposal. By implementing other waste-management strategies, or resource-management strategies, such as reuse, recycling and composting, we reduce our dependence upon incinerators and landfills. And by using recycled materials in place of trees, metal ores and minerals, pressure is reduced on expanding forestry and mining production. **By recycling more than 250,000 tons of scrap steel in 2001, Washington's recycling efforts reduced the need for virgin materials by twice that amount, including 310,000 tons of iron ore, 175,000 tons of coal and 15,000 tons of limestone.**

## **Recycling provides preferred sources of raw materials**

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Recycling is an important strategy for reducing the environmental effects of industrial production. Supplying industry with recycled materials, instead of resources extracted from forests and mines, saves energy, reduces greenhouse-gas emissions and other dangerous air and water pollutants, and conserves scarce natural resources. **In 2001, Washington recycling programs supplied industry with more than 4.2 million tons of recycled commodities such as metals, plastics, paper, glass, wood, and construction and demolition scrap.**

## **Recycling saves energy**

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The energy required to manufacture paper, plastics, glass and metal from recycled materials is generally less than the energy required to produce them from virgin materials. Additionally, the steps in providing recycled materials to industry (collection, processing and transportation) typically use less energy than the steps in supplying virgin materials to industry (extraction, refinement, transportation and processing). **The 1.42 million tons of metals, paper, glass and plastic recycled in Washington in 2001 saved a total of about 18 trillion BTUs of energy. This is enough to power more than 18,000 homes for an entire year!**

## **Recycling reduces greenhouse gas emissions**

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Recycling helps stem global climate change by reducing the energy used by industry, thus reducing greenhouse-gas emissions. A great amount of energy used in industrial processes and in transportation involves burning fossil fuels. **Washington's measured recycling efforts for 2001 reduced greenhouse-gas emissions by more than 1.1 million tons, or 370 pounds per person.**

## Recycling reduces emissions of air and water pollutants

Recycling can significantly reduce the pollutants entering the air and water. Additional benefits are reduced fossil-fuel use and keeping materials out of landfills, where they can introduce contaminants into groundwater systems, and out of incinerators, which can put pollutants into the air and into ash residue. **In 2001, Washington's measured recycling efforts reduced more than 7,000 tons of water pollutants and 113,000 tons of air pollutants (not including the greenhouse gas reductions mentioned previously).**

### Energy savings and greenhouse-gas effects from recycling In Washington state for 2001 (Relative to energy required for virgin production)\*

Material/Grade	Tons Recovered	BTUs Saved (in millions)	Tons Greenhouse Gases Reduced (MTCE)
Aluminum	12,540	1,900,687	49,007
Newsprint	176,392	1,693,021	111,369
Mixed Waste Paper	289,840	3,125,400	273,442
Cardboard	491,230	3,537,507	353,777
Glass	81,632	294,315	8,697
Steel Cans	11,483	256,882	6,426
Ferrous Metals	293,284	6,560,909	164,120
PET	4,661	133,123	3,122
HDPE	4,841	83,215	1,977
LDPE	6,603	161,332	3,553
Other Plastics	4,067	69,914	1,661
Food Scraps	86,226	N/A	1,815
Yard Waste	448,222	N/A	8,978
Other Organics	884,999	N/A	17,788
<b>Total</b>	<b>2,799,020</b>	<b>17,816,305</b>	<b>1,005,732</b>

\*Based on the following sources: Department of Ecology 2001 Recycling Survey; the Environmental Benefits of Recycling model, a Northeast Recycling Council project; Energy Information Administration, Washington State Energy Data Report for 1999.

## For more information

If you have questions or would like further information, contact Gretchen Newman, recycling survey coordinator, Solid Waste and Financial Assistance Program, Department of Ecology

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